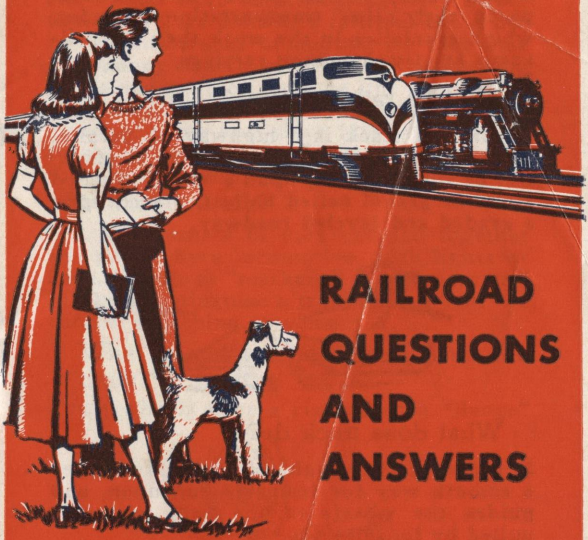
QUIZ *Jr.*



RAILROAD QUESTIONS AND ANSWERS

1. What is a railroad?

A railroad is a means of transportation, consisting of roadbed, track, bridges and structures, locomotives and cars, stations, shops, signals, yards, and other facilities, all combined in use to give transportation service.

2. What does a railroad do?

Railroads are "common carriers" of persons and property. They carry passengers, freight, mail, express, and baggage. As common carriers, they will carry anything that is movable from any station to any other station on the North American continent, in any season of the year. As compared with other transportation agencies, which specialize in the work they do, railroads are true common carriers.

3. What is railroad track?

A railroad track is a highway of parallel steel rails, laid upon and fastened to crossties of wood, resting upon a bed of crushed stone or gravel called ballast, placed upon a graded and leveled roadway.

4. What does track do?

It supports the weight of trains, furnishes a smooth way for trains to run upon, and guides the wheels of the cars in trains pulled by locomotives.

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5. How wide is a track?

On American railroads the standard width or "gauge" of track is 4 feet 8½ inches between the rails.

6. How did this gauge become standard?

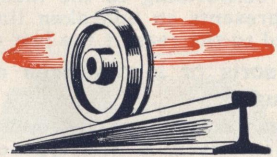
Originally, there were many different widths of track, both in England and later in the United States, varying all the way from 2 feet to 7 feet. In England, George Stephenson built his first successful steam locomotives to run on a track with 4 foot 8 inch gauge. Subsequently, this gauge was "eased" by adding ½ inch. As railroads spread over the United States, many different widths were used, ranging from 2 feet to 6 feet. Cars from one railroad could not run on the tracks of another so that time and money had to be spent in transferring goods and people from one line to another. Gradually, the railroads worked toward a standard gauge and, since 1886, virtually all tracks in the United States have been of the present width.

7. What is a train?

A train consists of cars coupled together and pulled by a locomotive, with lights or flags, known as "markers," on the rear car. Markers distinguish a train from a "cut" of cars in switching movement.

8. What keeps a train's wheels on the track?

Train wheels have a rim called a "flange"



on the inside edge. This flange fits against the inside edge of the rail and keeps the wheel from slipping off the track.

9. Why doesn't a train tip over when it goes around a curve?

The train does not tip over because the rail on the outside of the curve is higher than the rail on the inside—the same way that a highway is "banked" at a curve.

10. How are railroad cars fastened together?

The cars are fastened by automatic couplers which are like the fingers of two "hands" that come together and lock in a firm grip. A brakeman does not have to go between the cars to couple or uncouple them.

11. What kind of brakes do trains have?

Trains have automatic brakes worked by compressed air and controlled from the locomotive. These air brakes can be applied throughout a long train in a few seconds.

12. What is a streamlined train?

Streamlined trains are specially built of strong light-weight metals with the shape of all cars conforming to the locomotive. The train presents an unbroken line from the head end to the rear of the last car.

13. What sorts of locomotives do railroads use?

Railroads use steam, electric, and Diesel-electric locomotives. A new type of loco-

motive developed in recent years is the gas turbine locomotive. Several are now in use and more are being built.

14. What is a steam locomotive?

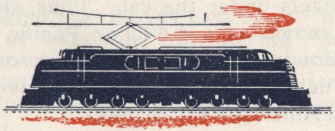
A steam locomotive heats water to make steam, and uses the expansive power of the steam in cylinders to do its work.

15. How did the engine get the name of locomotive?

When the steam engine was "put on wheels" and made to run on rails (1804-1825) it was called a "locomotive engine"—that is, a traveling engine—because it could move from place to place under its own power (locomotion). Later it became simply a "locomotive" or an "engine," and both terms have been in common use for many years.

16. What is an electric engine?

An electric engine gets its power from overhead wires, or from a "third rail," supplied with electricity from a power station.



17. What is a Diesel-electric locomotive?

A diesel locomotive, burning oil directly in its cylinders, powers a generator which produces electric current to operate the motor which drives the locomotive.

18. How many locomotives are there on the railroads of the United States?

At the beginning of 1953, there were 37,706 locomotives in this country, of which 20,480 were operated by Diesel-electric power, 16,450 by steam, and 756 by electricity. Twenty were of other types.

19. How can you tell the different kinds of steam locomotives?

By the wheel arrangement. For instance, a Pacific type locomotive has two pairs (4) of small wheels in front, three pairs (6) of drivers, followed by a single pair (2) of small wheels under the cab. Thus, the engine is known as a 4-6-2, or Pacific type. The following table will enable one to identify nearly every steam locomotive type in use on American railroads:

WHEEL ARRANGEMENT

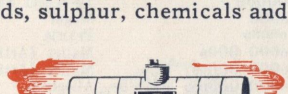
Whyte System Symbol	*Front to Back*	*Type*
0-4-0	00	4-Wheel Switcher
0-6-0	000	6-Wheel Switcher
0-8-0	0000	8-Wheel Switcher
0-8-8-0	0000 0000	Mallet (Articulated)
0-10-0	00000	10-Wheel Switcher
2-6-0	o000	Mogul
2-6-2	o000o	Prairie
2-6-6-2	o000 000o	Mallet (Articulated)
2-6-6-4	o000 000oo	Mallet (Articulated)
2-6-6-6	o000 000ooo	Allegheny
2-8-0	o0000	Consolidation
2-8-2	o0000oo	Mikado
2-8-4	o0000oo	Berkshire
2-8-8-0	o0000 0000	Mallet (Articulated)
2-8-8-2	o0000 0000o	Mallet (Articulated)
2-8-8-4	o0000 0000oo	Yellowstone (Mallet Articulated)
2-8-8-8-2	o0000 0000 0000o	Triple Articulated
2-10-0	o00000	Decapod
2-10-2	o00000o	Santa Fe
2-10-4	o00000oo	Texas
2-10-10-2	o00000 00000o	Mallet (Articulated)
4-4-0	ooOO	American
4-4-2	ooOOo	Atlantic
4-4-4	ooOOoo	
4-4-4-4	ooOO OOoo	4-Cyl. Non-Articulated
4-4-6-4	ooOO OOOoo	4-Cyl. Non-Articulated
4-6-0	ooOOO	10-Wheel
4-6-2	ooOOOo	Pacific
4-6-4	ooOOOoo	Hudson
4-6-4-4	ooOOO OOoo	4-Cyl. Non-Articulated
4-6-6	ooOOOooo	Tank
4-6-6-4	ooOOO OOOoo	4-Cyl. Articulated
4-8-0	ooOOOO	12-Wheel
4-8-2	ooOOOOo	Mountain
4-8-4	ooOOOOoo	Northern;Niagara; Pocono
4-8-8-2	ooOOOO OOOOo	Mallet (Articulated)
4-8-8-4	ooOOOO OOOOoo	Mallet (Articulated)
4-10-0	ooOOOOO	Mastodon
4-10-2	ooOOOOOo	Southern Pacific
4-12-2	ooOOOOOOo	Union Pacific

20. What is a switcher?

An engine that moves cars about in freight yards or terminals, transferring them from one track to another, is known as a switcher. Steam, electric, and Diesel-electric locomotives are used in switching service.

21. What are some different kinds of freight cars?

There are box cars, flat cars, tank cars, refrigerator cars, gondola and hopper cars, stock and poultry cars, and specially designed cars for carrying heavy machinery and various products such as ores, pulpwood, acids, sulphur, chemicals and gases.

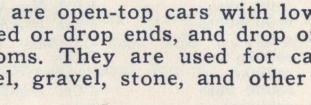


22. What are tank cars used for?

Tank cars are used to carry all sorts of liquids—oil, gasoline, acids, chemicals. Milk is often transported in cars with large glass-lined tanks.

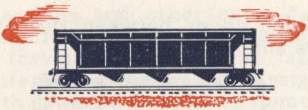
23. What is a gondola car?

Gondolas are open-top cars with low fixed sides, fixed or drop ends, and drop or solid flat bottoms. They are used for carrying iron, steel, gravel, stone, and other heavy loads.



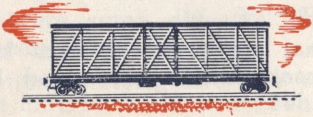
24. What is a hopper car?

Hoppers are cars for carrying such things as coal, ore, stone, gravel, and sand, with bottoms which can be dropped down to let the loads fall out. Most hoppers are open-top cars but there are also closed-top hoppers.



25. What is a stock car?

Stock cars are like box cars but with side walls made of slats. They are used to carry cattle, sheep, hogs, or other live-stock to market. Poultry cars have several floors and the openings between the slats are screened.



26. How long is a freight car?

Freight cars vary in length from 24 feet to 75 feet, the average length being about 43 feet, outside over-all measurement.

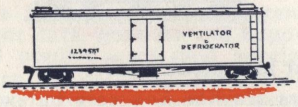
27. What is a "reefer"?

A "reefer" is a refrigerator car. The floor and walls are insulated like those of an ice-box. Refrigerator cars are used to transport fresh fruits, vegetables, dairy products, meats, fish, and other foods which must be kept cold so that they will not spoil on the way to market. Fast trains of refrigerator cars transport food to every part of the country.

28. How is ice put into refrigerator cars?

A chain belt brings ice cakes from the ice house to an elevated icing platform beside the railroad tracks. There the cakes are dropped through hatches or trap doors in the car's roof into ice bins or bunkers. Some shipments are "top-iced" by blowing

crushed ice on or between the containers of fruits and vegetables.



29. Are refrigerator cars heated in winter?

Yes. In winter small heaters are often placed in the cars to prevent the contents from freezing.

30. What are some different kinds of passenger-train cars used by railroads?

Railroads have coaches, Pullman sleeping cars, dining cars, cafe cars, club cars, and observation-lounge cars. Cars for "head-end" traffic—mail, express, and baggage—are also used in passenger trains, and there are combination cars such as club and baggage cars and baggage and mail cars.

31. How long is a passenger car?

Passenger cars range in length from about 60 feet to 88 feet, the average length being about 72 feet, outside over-all measurements.

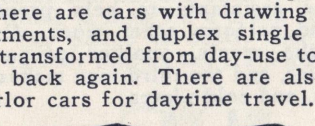
32. What are some of the different kinds of coaches?

Railroad coaches may be designed to provide the largest convenient number of seats for short journeys, as in the case of coaches used on suburban trains, or may be designed for passengers on longer journeys. In these trains, the coaches have reclining seats which may be tilted back for resting or sleeping. Many coaches also have

lounge sections and other extra facilities for the comfort and convenience of long-distance travelers. One of the latest developments in passenger car design is a coach with seats under a glass dome raised above the roof of the car, from which passengers can see out in any direction.

33. What are some different kinds of Pullman sleeping cars?

Some Pullman sleeping cars have sleeping rooms of different sizes, arranged for any number of passengers from one to five. Others have seats which at night are made into beds called lower berths. In these same cars upper berths are pulled down from the wall. Other Pullmans have roomettes—little rooms for one passenger —and there are cars with drawing rooms, compartments, and duplex single rooms. All are transformed from day-use to night-use and back again. There are also Pullman parlor cars for daytime travel.



34. What equipment does a dining car carry?

Besides food, a dining car, seating 40 persons, and fully equipped for a round trip, carries the following stock: 240 tablecloths, 800 napkins, 200 towels, 540 pieces of china-

ware, 703 pieces of silverware, 218 pieces of glassware, 240 items of pantry and kitchenware, 20 aprons and 50 waiter's coats.

35. What is a dining car kitchen like?

Dining car kitchens are long and narrow, ranging from 15½ to 32 feet 10 inches in length and from 6 to 7½ feet in width. They are fitted with stoves, ovens, mixing and serving tables, cupboards, linen closets, and refrigerators.

36. How many men work in a dining car kitchen?

The head cook or chef may have as many as three assistants to help prepare the food and perform other work. One man cooks the meats, another prepares the vegetables, and the third man makes salads, desserts, and cold plates.

37. What is a lounge car?

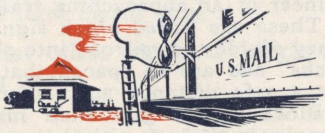
The lounge car or observation car is the "living room" of the train. It has large windows, soft carpets, comfortable chairs, desks, radio, smoking stands, and racks for magazines.

38. What is a Railway Post Office?

A Railway Post Office is a specially built and equipped car for handling United States mail—a post office on wheels. While the train speeds along, clerks of the Postal Transportation Service sort letters for each town along the route, put off inbound mail, and pick up outbound mail.

39. How does a train pick up mail without stopping or slowing down?

In the door of the Railway Post Office car is a steel catcher arm. A postal clerk swings this catcher arm out and aims it at the mail pouch which is hung on a crane beside the track. The pouch is neatly snatched up by the catcher arm as the train goes by.



40. What proportion of mail is carried by railroads?

Railroads carry (and provide sorting facilities for) about 95 per cent of all non-local mail—including everything from post cards to large parcel post packages. In 1952, for

carrying the average first-class letter, the railroads were paid about one-ninth of a cent.

41. What is the Railway Express Agency?

The Railway Express Agency is a large system of fast railway, airway, steamship, and motor truck service, organized to handle all kinds of shipments which require special attention or quick delivery. The Agency's specially built or equipped cars, each in charge of an express messenger, are hauled by passenger and fast express trains.

42. How are the movements of trains regulated?

Trains run according to fixed timetables or, when there is any variation from the timetable, according to orders issued by the train dispatcher.

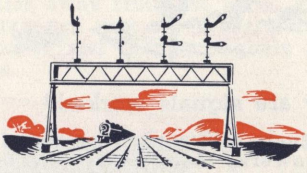
43. What are block signals?

On busy lines, where there are many trains, there are signals along the tracks to tell the engineer of an approaching train what to do. These are called block signals because they divide the railroad into sections or "blocks" and are so spaced that trains will run a safe distance apart from each other. Block signals give their messages to the engineer through either semaphores or lights.

44. What are semaphores?

Semaphores are signals with movable blades or "arms" on posts beside the track or on "signal bridges" above the track. From the position of the arms the engi-

neer knows when to stop, when to go slow, and when to go ahead at regular speed.



45. What do the different positions of the arm mean?

When the arm is straight up (vertical) it means that the track is clear; halfway up or down (diagonal), caution; straight out (horizontal), stop.

46. How can the engineer see them at night?

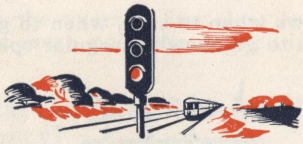
Colored lights show what position the arms are in at night.

47. What do the colored lights mean?

Green light means clear track—proceed at regular speed; yellow light means caution; and red light means stop.

48. What other kinds of block signals are used?

On some railroads, lights are used for signals both day and night. In some cases these are "position light" signals which are like semaphores except that they have rows of yellow lights instead of semaphore blades. Other railroads use color light signals—green, yellow, and red—which are visible by day as well as by night. Still others use a combination of position and color lights.



49. How are signals worked?

Some signals are worked by signalmen in control towers. Many others are operated automatically by the trains themselves as they move along tracks through which there flows a circuit of electric current. As the trains move, they "shunt," or close, the electric circuits in the rails, thus causing the signals to change their positions and their colors.

50. What are cab signals?

Cab signals show on a small panel inside the locomotive cab in front of the engineer the same messages as the wayside signal. These signals are transmitted from track rails to engine by electric induction.

51. Who controls or directs the movements of all the different trains?

The train dispatcher. He keeps an up-to-the-minute record of the movements of every train on his division.

52. How are orders sent to train crews?

Most train orders are transmitted by telephone or telegraph, and delivered to train crews by operators at stations or towers. In many cases train movements are directed by "centralized traffic control." In this system, trains automatically show their location by means of electric lights on an illuminated map on the control panel, and the operator transmits his messages

through signals operated by moving levers or pushing buttons on the panel. In some cases, these signals may be two hundred or more miles away from the panel, but they are so arranged that the operator can both set switches and display signals at such distances.

53. How is radio used in railroad operation?

On many railroads, radio is used for communication between conductor and engineer on both freight and passenger trains, and between dispatchers and train crews. On some trains, passengers may talk by radiotelephone with their homes or offices. In many freight yards, radio is used for two-way communication between switching crews and yard offices. In some cases

this communication is entirely by radio; in others it is by a system of radio induction from electric circuits in the track and wire lines alongside. Radio also helps railroads operate their tugs and ferry boats.

54. What is a terminal?

A terminal includes the railroad station proper and all the tracks and other facilities

for handling mail, baggage, and express. It may also include a roundhouse, or engine house, switching facilities, fuel and water stations for locomotives, and coach yards where cars are stored when not in use. Railroad offices, storehouses, shops, and other buildings are usually located within the terminal area and are part of its larger facilities. Passenger trains begin and end their journey in passenger terminals.

55. What is a freight yard?

A freight yard is made up of groups or sets of tracks, connected by switches. There are incoming tracks, outbound tracks, and classification tracks where cars are sorted and made up into trains. There are also

storage tracks to hold cars, "rip tracks" where cars are given light "running repairs," and other tracks where freight is loaded and unloaded. Electricity and compressed air operate yard devices from control towers. Pneumatic tubes, printer telegraphs, and two-way radio speed messages.

56. What is a "hump" in a freight yard?

Many large yards in which the cars of freight trains are distributed and made up into other trains, are built with an elevation or "hump" in the middle. Switch engines push trains of cars to the top of this hump. There the cars are cut off, according to their destinations, and are allowed to roll down the slope into the proper classification tracks on which new

trains are being made up. The switches which turn cars into the right track are controlled by a towerman. Towermen also control the speed of the cars by the use

of "car retarders," which squeeze the sides of the moving car wheels with sufficient pressure to slow them down or stop them when desired.

57. What is a railroad shop?

A railroad shop is a large repair plant where locomotives and cars are overhauled and repaired. Many shops are equipped to build as well as repair engines and cars.

58. What men work in a shop?

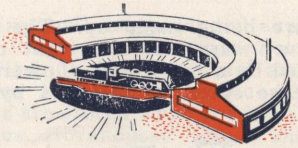
Machinists, boilermakers, crane operators, engine cleaners, blacksmiths, electrical workers, molders, sheet metal workers, and many other skilled workers. A master mechanic is usually in charge of a railway shop.

59. What is a roundhouse?

A roundhouse is generally a circular building divided into numerous "stalls" where locomotives are kept. In the center of the roundhouse is a turntable with tracks spreading out from it like the spokes of a wheel, each track leading to a stall. In the roundhouse, engines are cleaned and light repairs may also be made there.

60. What is a turntable?

It is a short stretch of track laid on a bridge-like structure which is pivoted at



the center and used for turning a locomotive around. To take a locomotive into or out of the roundhouse, it is run on the turntable which is then turned so that it fits with tracks laid in the desired direction.

61. Who are the men that walk alongside the train in the station looking under the cars?

They are car inspectors, sometimes referred to in railroad language as "car knockers." They examine both passenger and freight cars to make sure that they are in good condition.

62. Who runs the trains?

Trains are run by train crews, usually of four or more men—a conductor, one or

more brakemen, a locomotive engineer, and a fireman. The engineer and fireman are known as the engine crew.

63. Who is in charge of a passenger train?

The conductor. He sees that members of the train crew do their work properly, and

that all orders concerning the movement of his train are carried out. He makes sure that the right "markers" or lights are displayed. He is in charge of taking up tickets, collecting fares, and calling out stations.

64. What does the engineer do?

The engineer runs the locomotive. He sits on the right side of the engine cab, constantly watches the signals, and keeps his hand on the throttle—the lever which starts the locomotive and makes it go fast or slow.

65. What does the fireman do?

The fireman helps the engineer run the engine. On a steam locomotive he must see that the fire in the firebox is kept hot to make steam. He must also see that the engine has plenty of water and fuel. He sits on the left side of the cab and helps the engineer watch the signals. By firing a locomotive a man learns to become an engineer.

66. Who are the other members of a passenger-train crew?

Other members of a passenger-train crew are the trainman or flagman who assists the conductor, and the baggageman who looks after the baggage car.

67. What other people work on a passenger train?

Besides the regular train crew, there may be express messengers, railway postal clerks, Pullman conductor, Pullman porters, coach porters, club car attendants, dining car stewards, cooks, waiters, and, on many trains, a stenographer and a stewardess.

68. How many men form the crew of a freight train?

The crew of a freight train usually consists of a conductor, a locomotive engineer, a fireman, and two brakemen or flagmen.

69. What does the conductor on a freight train do?

As in passenger service, the conductor is in charge of the train. He keeps a record of all shipments and, from his waybills, sorts out cars to be cut out of the train at the next switching point. He also prepares a "wheel report" showing the origin, destination, and "consist" of the train.

70. What is a waybill?

Every shipment of freight has a "ticket" which shows the car number, nature, origin and destination of a shipment. This ticket is called a waybill.

71. What does the freight brakeman do?

He sees that everything needed for the trip is in place on the train. He couples

and uncouples cars that are set out or picked up along the way. On local freight trains he helps to load and unload package freight at stations. One brakeman usually rides on the locomotive, the other in the caboose.

72. What is a caboose?

The caboose of a freight train is the train office and the home of the train crew while they are on the road. It contains a desk for the conductor, a stove, lockers for clothing, and places for flags, lanterns, and emergency tools. From the little watch-tower or cupola on top of the caboose the conductor and rear brakeman watch the train of cars ahead.

73. Where does a freight train start?

A freight train starts its run from a freight yard and completes its run in another freight yard.

74. What is meant by a "run"?

A run is a train's or engine's journey between terminal points. The men operating a train are "making a run." On trains going long distances, engine and train crews change from time to time.

75. Do railroads use motor trucks in connection with freight handling?

Many railroads own or hire motor trucks which collect and deliver package freight and other small shipments at stores, fac-

tories, and other places of business. This is called pick-up and delivery service

76. What is the right-of-way?

The right-of-way is the strip of land, of various widths, upon which the railroad is built. It is wide enough to provide for tracks, drainage, signals, bridges, telegraph and telephone lines, sidings, buildings, and other facilities.

77. What is maintenance of way?

The work of keeping tracks, roadbed, bridges, tunnels, buildings, and other fixed facilities in good repair is called maintenance of way.

78. What is the longest railroad tunnel in the United States?

The Cascade Tunnel, of the Great Northern Railway, through the Cascade Mountains in the State of Washington. It is more than seven miles in length.

79. What is the shortest railroad tunnel in the country?

The Bee Rock Tunnel, 30 feet in length, on the Louisville & Nashville Railroad near Appalachia, Virginia.

80. What is the longest railroad bridge in the United States?

The Lucin Cut-off, carrying the tracks of the Southern Pacific across Great Salt

Lake in Utah, is the longest railroad bridge structure in the country. It is twelve miles long.

81. How does a railroad company keep track of its wandering freight cars?

Each railroad has a car record office which keeps a record of movements of all freight cars on its lines and all its own cars on other railroads. This is done from conductors' "wheel reports" of cars moving in each train, reports of cars interchanged between railroads at junction points, or teletype reports from yard offices. Cars moving from one road to another are reported to all railroads concerned, including owning roads.

82. How does the conductor of a passenger train signal the engineer while the train is moving?

The signal line or "bell-cord" which runs through each car is for communicating signals from train to engine cab. (See also No. 53).

83. What do the various bell-cord signals mean?

Two shorts: When standing, *start.*
Two shorts: When running, *stop at once.*
Three shorts: When standing, *back.*
Three shorts: When running, *stop at next passenger station.*
Four shorts: When standing, *apply or release air brakes.*
Five shorts: When standing, *recall flagman.*

84. How are signals exchanged between engine and train crews on freight trains?

Hand, flag, and lantern signals are used and in some cases radiotelephones in caboose and locomotive cab furnish end-to-end communication on freight trains.

85. What are hand, flag, and lantern signals?

A hand, flag, or lantern swung horizontally across the track means *stop;* held straight out from the side at arm's length, *reduce speed;* raised and lowered vertically, *proceed;* swung vertically in a circle at half arm's length across track, *back up;* swung horizontally above head, when standing, *apply air brakes;* held at arm's length above head, when standing, *release air brakes.*

86. What do the different engine whistles mean?

Two longs, one short, one long: *Approaching public grade crossing.*
One long: *Approaching station, junction, or railroad crossing.*
A number of short toots: *Alarm for persons or animals on track.*
One short: *Apply brakes, stop.*
Two longs: *Release brakes, proceed.*
One long, three shorts: *Flagman protect rear of train.*

Four longs: *Flagman may return from west or south.**
Five longs: *Flagman may return from east or north.**
Four shorts: *Call for signals.*
Three shorts: When standing, *back up.*
Three shorts: When running, *stop at next station.*
One long, two shorts: To another train, *a second section is following.*
Two shorts: *Engineer's answer to most signals from other trains.*

87. How many mile-a-minute passenger trains are run in the United States?

There are more than 2,600 daily passenger runs of mile-a-minute or faster, totaling more than 152,000 route-miles.

88. Who invented the steam locomotive?

The first steam engine to pull loaded cars over a road of rails was built and operated by Richard Trevithick in England in 1804. Another British inventor, George Stephenson, made great improvements in engines and built the first really practical "Iron Horse."

89. Who built the first locomotive in the United States?

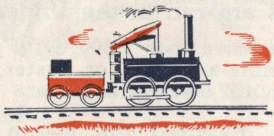
The first steam engine to run on rails in America, an experimental model, was built

* *These whistle signals are followed by one, two, or three short sounds when several tracks are in use.*

by John Stevens in 1825 and operated on his estate at Hoboken, New Jersey.

90. What was the first locomotive used on a regular railroad in this country?

An engine, built in England and named the *Stourbridge Lion,* was tried out by Horatio Allen on the tracks of the Delaware & Hudson Canal Company (now the Delaware and Hudson Railroad Corporation) on August 8, 1829. In September of that same year, the engine *Tom Thumb,* built



by Peter Cooper of New York, was given a trial run on the Baltimore & Ohio. It became the first American-built locomotive to be operated on a railroad in this country.

91. What was the first locomotive to be placed in regular service in the United States?

The *Best Friend of Charleston.* The first engine to pull a train of cars in this country, it was placed in regular service on the South Carolina Railroad (now the Southern Railway System) at Charleston, South Carolina, December 25, 1830.

92. What was the first railroad in the United States?

The first road of rails in this country is said to have been a short inclined track used as early as 1795 in Boston. The first railway company to build and operate a railroad in the United States was the Granite Railway Company, incorporated in Massachusetts in 1826. The cars were drawn by horses. The first railroad for passengers and freight was the Baltimore & Ohio which was opened for horse-drawn traffic in 1830.

93. Who was the first President of the United States to ride on a railroad train?

Andrew Jackson was the first United States President to ride on a railroad train. He journeyed from Ellicott's Mills, Maryland, to Baltimore over the Baltimore & Ohio on June 6, 1833.

94. When did circuses begin to travel by railroads?

Circus travel by railroad began as early as 1838 and by 1860 circus trains had commenced touring the country. In the early 1870's P. T. Barnum's "Greatest Show on Earth" began traveling by rail with more

than 60 brightly painted circus cars—the first circus-owned train in the U. S.

95. When did railroads first cross the continent?

The first locomotive to turn a wheel west of the Mississippi was on the Pacific Railroad of Missouri (now Missouri Pacific) at St. Louis, in 1852. In 1856, rails first crossed the Mississippi on the bridge of the Chicago & Rock Island, at Davenport, Iowa. Three years later, the Hannibal & St. Joseph (now part of the Burlington) reached the Missouri River at St. Joseph. The Chicago & North Western reached the Missouri at Council Bluffs, Iowa, in 1867. In 1863 construction began on the first transcontinental line, with the Union Pacific building west from Omaha, Nebraska, and the Central Pacific (now Southern Pacific) building east from Sacramento, California. The lines were joined on May 10, 1869, at Promontory, Utah, in the historic ceremony of driving the Golden Spike. The blows of the hammer driving the final spikes of gold and silver were "broadcast" to the entire country by telegraph.

96. What did the railroads do to bring about Standard Time?

At noon on November 18, 1883, the railroads of the United States changed from a confusing system of many different "local" times to the present Standard Time. On that date railway clocks and watches all over the country were set to the four standards of time (Eastern, Central, Mountain, and Pacific), each one hour apart. Soon this orderly method of reckoning time was being used by the government and the states, cities, and towns throughout the nation, although it was put into effect without government laws of any sort. It was not until 35 years later

that Congress passed the Standard Time Act.

97. Who was Casey Jones?

John Luther Jones, nicknamed "Casey" Jones, was an engineer on the Mississippi Division of the Illinois Central Railroad in the 1890's. Jones, famous all along his run for the way he blew his engine's whistle, was killed in a wreck near Vaughan, Mississippi, on the night of April 30, 1900. His train, the *Cannonball Express,* was rolling at 60 miles an hour when it crashed into the rear end of a freight which had not cleared the main track. After Casey's death at the throttle of his engine, Wallace Saunders, a Negro engine wiper, at Jackson, Tennessee, made up the ballad "Casey Jones" and it became one of the best known folksongs of the rails.

98. What is the fastest train run on record in the United States?

On June 12, 1905, the *Pennsylvania Special,* now the *Broadway Limited,* of the Pennsylvania Railroad, ran three miles in Ohio in 85 seconds—a rate of 127.06 miles per hour.

99. What part did the railroads play in World War II?

Railroads were the "lifeline of the nation." They handled 97 per cent of all organized military travel. They carried 90 per cent of all military freight. They delivered millions of carloads of materials and supplies to Army and Navy camps and bases.

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They brought raw materials and heavy machinery to our mills, arsenals, and war plants, and they took the products of mills and factories and arsenals to military bases and to the seaports for shipment overseas. All this was in addition to taking care of regular civilian freight and passenger traffic.

100. What is the Association of American Railroads?

The Association of American Railroads is the organization of the principal railroads of the United States, Canada, and Mexico for dealing with matters of common concern. It undertakes many services for its members which can be done better, or more economically, by a common organization than they could by each railroad separately. Its work relates to such matters as railroad operation and maintenance, engineering, research, accounting, law and legislation, and transportation economics. The Association originated in the necessity for standardizing many features of railroad equipment and operations when freight cars first began to move from the lines of one railroad to another, in the late 1860's. The organizations formed to deal with these problems have grown into the present Association of American Railroads, which has operated under that name since 1934.

ASSOCIATION OF AMERICAN RAILROADS
Transportation Building Washington 6, D. C.